



Your Personal Exams Guide



NDA



CDS



SSC CGL



CBSE UGC NET



IAS



SSC CHSL



CTET



MPSC



AFCAT



CSIR UDC NET



IBPS PO



UP POLICE



SSC MTS



SBI PO



BPSC



UP TET



IBPS RRB



IBPS CLERK



IES



UPSC CAPF



SSC Stenogr..



RRB NTPC



SSC GD



RBI GRADE B



RBI Assistant



DSSSB

RRB Group D 2018 Previous Year Paper (03-Oct-2018) (Shift 2)

Total Time: 1 Hour : 30 Minute

Total Marks: 100

Instructions

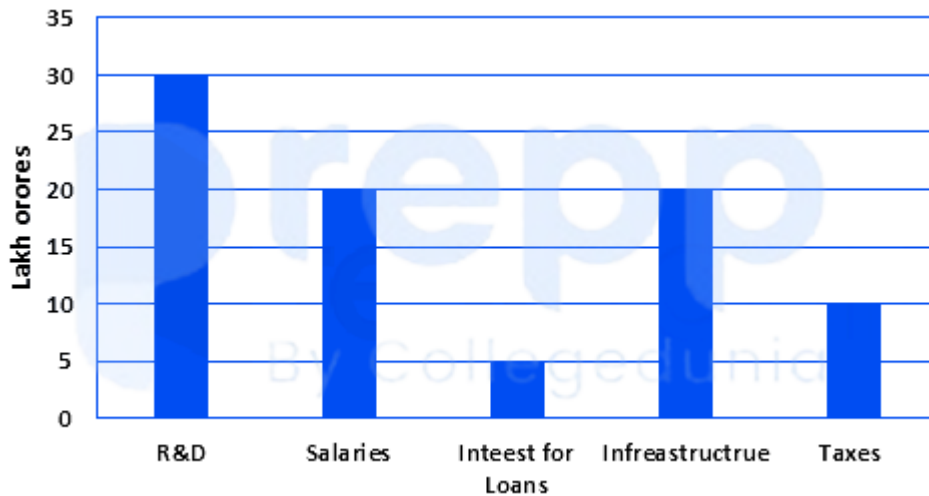
Sl No.	Section Name	No. of Question	Maximum Marks	Negative Marks	Positive Marks
1	CBT	100	100	0.33	1

- 1.) A total of 90 minutes is allotted for the examination.
- 2.) The server will set your clock for you. In the top right corner of your screen, a countdown timer will display the remaining time for you to complete the exam. Once the timer reaches zero, the examination will end automatically. The paper need not be submitted when your timer reaches zero.
- 3.) There will, however, be sectional timing for this exam. You will have to complete each section within the specified time limit. Before moving on to the next section, you must complete the current one within the time limits.

Your Personal Exams Guide

CBT

1. The CEAT International Cricketer of the Year Award 2017 was presented to: **(+1, -0.33)**
- a. Ravindra Jadeja
 - b. Chetweshwar Pujara
 - c. Irfan Pathan
 - d. Ravichandran Ashwin
-
2. The Square Root of 7569 is: **(+1, -0.33)**
- a. 87
 - b. 93
 - c. 83
 - d. 77
-
3. An element has electronic configuration 2,8,6. It belongs to _____. **(+1, -0.33)**
- a. 6 group and 2 period
 - b. 16 group and 3 period
 - c. 1 group and 1 period
 - d. 2 group and 2 period
-
4. The graph below shows the expenditure of a public sector company 'ABC' **(+1, -0.33)**
under different heads for the financial year 2015-16



How much did company ABC spend on infrastructure in 2015–2016?

- a. 20 lakh crores
- b. 30 lakh crores
- c. 25 lakh crores
- d. 5 lakh crores

5. How is Madhuri's brother's only sister's father's father related to her? (+1, -0.33)

- a. Brother
- b. Uncle
- c. Father
- d. Paternal Grandfather

6. A $5\ \Omega$ resistance wire is doubled on it. Calculate the new resistance of the wire. (+1, -0.33)

- a. $1.25\ \Omega$

- b. 2.25Ω
- c. 1.5Ω
- d. 1.00Ω

7. What is the answer of $\frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \frac{1}{56}$? (+1, -0.33)

- a. $\frac{11}{24}$
- b. $\frac{3}{8}$
- c. $\frac{7}{16}$
- d. $\frac{13}{28}$

8. Choose the option that is NOT true about vascular system (+1, -0.33)

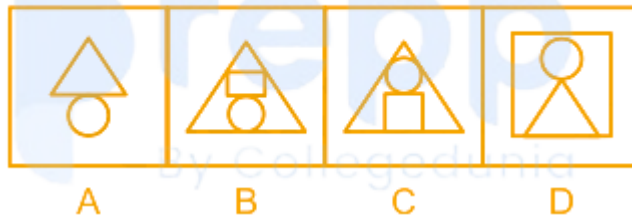
- a. Blood is only white vascular connective tissue
- b. The vascular system forms about 7-8% of the body weight
- c. There is about 6.8 litres of blood in an adult person
- d. Life span of human RBCs is 115-120 days.

9. Pick the figure that will complete the given series. (+1, -0.33)

Problem Figures



Answer Figures



- a. A
- b. C
- c. B
- d. D

10. In November 2017, _____ was India's nominee for the fifth and last seat in the International Court of Justice. S/he was re-elected after Britain withdraw its candidate from the election (+1, -0.33)

- a. Dalveer Bhandari
- b. Ronny Abraham
- c. Neeru Chadha
- d. Debasish Bhaduri

11. Tooth decay starts when the pH of the mouth is _____. (+1, -0.33)

- a. more than 5.5
- b. less than 5.5
- c. less than 4.5

d. more than 4.5

12. ISRO's first sun mission, which is going to take off in 2019, is named as: (+1, -0.33)

a. Surya L1

b. Ravi L1

c. Suraj L1

d. Aditya L1

13. The ratio of the average ages of three people and the other two in a group of five people is 9 : 7. If the difference of their averages is 12, then find out the average age of all 5 people? (+1, -0.33)

a. 64.8

b. 46.8

c. 49.2

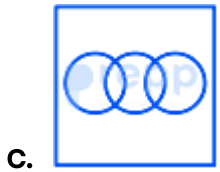
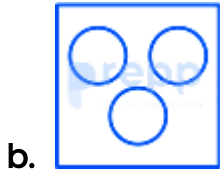
d. 48.4

14. Choose the best suitable Venn diagram for the following words: (+1, -0.33)

"Bus, Engine, Piston"



a.



15. In the Modern Periodic Table, which period contains 32 elements? (+1, -0.33)

- a. Period 6
- b. Period 3
- c. Period 4
- d. Period 5

16. 6 6 8 5 5 3 7 3 7 2 5 8 8 7 8 1 5 5 3 (+1, -0.33)

How many 5 are there in the above sequence that is completely divisible by the number on their left but not divisible by the number on their right?

- a. 2
- b. 3
- c. 0

d. 1

17. Which of the following objects would possess potential energy? (+1, -0.33)

- a. Raised Hammer
 - b. Blowing wind
 - c. A rolling stone
 - d. Moving bullet
-

18. Which of the following regions is the original habitat of the 'Toda Tribe'? (+1, -0.33)

- a. Kumaun Hills
 - b. Nilgiri Hills
 - c. Khasi Hills
 - d. Gharwal Hills
-

19. You are given a question and three statements. Identify which of the statements is/ are necessary sufficient to answer the question: (+1, -0.33)

Question:

In which year was Arti born?

Statements:

- I. Aarti is six year older than Pranavi
- II. Pranavi's sister was born in 1982

III. Aarti's sister is two years younger than Pranavi's sister, who is eight years younger than Pranavi.

- a. Only II and III are sufficient
- b. Only I and III are sufficient
- c. All I, II and III are necessary
- d. Only I is sufficient

20. Which of the following cities is situated on river bank of Sabarmati? (+1, -0.33)

- a. Surat
- b. Bhavnagar
- c. Vadodara
- d. Ahmedabad

21. If G is the G.M. of the product of r sets of observations. With geometric means $G_1, G_2, G_3, \dots, G_r$ respectively, then find the value of G ? (+1, -0.33)

- a. $\log G_1 + \log G_2 + \dots \log G_r$
- b. $G_1 \cdot G_2 \dots G_r$
- c. $G_1 + G_2 + \dots + G_r$
- d. $\log G_1 \cdot \log G_2 \dots \log G_r$

22. The given symbol represents _____ element. (+1, -0.33)



- a. Gold
- b. Hydrogen
- c. Mercury
- d. Carbon

23. Name the author of the book 'One Indian Girl'. (+1, -0.33)

- a. Chetan Bhagat
- b. Ashwin Sanghi
- c. Brad Stone
- d. Mark Tully

24. The recipients of the Whitley Awards, also called the Green Oscar Awards, are: (+1, -0.33)

- a. S Bhoopaty and Parul Sarkar
- b. P Sanjeevani and Arunima Agarwal
- c. Sanjay Gubbi and Purnima Burman
- d. Manik Rao and Naresh Mehta

25. In the Modern Periodic Table, which group has a completely filled valence shell and chemically inactive elements? (+1, -0.33)

- a. 16
- b. 18
- c. 15
- d. 17

26. The speed of a boat in still water is 12 km/h. If the boat covers a distance of 38 km upstream in 4 hours, then the speed of the stream (in km/h) is: (+1, -0.33)

- a. 6.5
- b. 3.17
- c. 2.5
- d. 3

27. When light travels from a rarer medium to a denser medium, it _____. (+1, -0.33)

- a. speed remains the same
- b. speeds down then up
- c. speeds down
- d. speeds up

28. Which of the following sports is Gurmeet Singh associated with? (+1, -0.33)

- a. Race walk
- b. Kabaddi

- c. Shooting
 - d. Wrestling
-

29. Solve the following equation to find x: (+1, -0.33)

$$(x - 2)^2 - 36 = 0; x \in \mathbb{N}$$

- a. 4
 - b. -4
 - c. -8
 - d. 8
-

30. What type of tissue are our bones? (+1, -0.33)

- a. Parenchyma
 - b. Permanent tissue
 - c. Epidermic
 - d. Connective
-

31. There are three groups G_1 , G_2 and G_3 in a College with 20, 40 and 60 students respectively. The average marks obtained by groups G_1 , G_2 and G_3 are 50%, 60% and 70% respectively. Find the average marks (approx) of the entire college. (+1, -0.33)

- a. 60%
- b. 63%

c. 62%

d. 61%

32. For which of the following elements, the symbol consists of only one letter? (+1, -0.33)

a. Calcium

b. Chlorine

c. Carbon

d. Copper

33. Chandra Gupta II extended the Gupta Kingdom to Gujarat in _____ AD (+1, -0.33)

a. 390

b. 309

c. 903

d. 930

34. Mahabaleshwar Sail received 2016 Saraswati Samman for _____ Literature. (+1, -0.33)

a. Marathi

b. Tulu

c. Odia

d. Hindi

d. Konkani

35. Find the three prime numbers such that product of the first two is 1147 and (+1, -0.33)
the product of the last two numbers is 1517?

a. 21, 47, 61

b. 31, 37, 61

c. 21, 37, 41

d. 31, 37, 41

36. Select the option that is related to the third word on the same basis as (+1, -0.33)
the second word is related to the first word.

Instrument : Play :: Bell : ?

a. Ring

b. Sound

c. Shape

d. Metal

37. Read the given statements and conclusions carefully and select which of (+1, -0.33)
the conclusions logically follow(s) from the statements.

Statements:

1. All buses are cars.

2. All ships are cars

Conclusions:

- I. All cars are ships
 - II. Some buses are cars
 - a. Both I and II follow
 - b. Neither I nor II follow
 - c. Only I follows
 - d. Only II follows
-

38. What is the value of one-fourth of G?

(+1, -0.33)

$$\text{If } G = (96 \div 12) + 14 \times (12 + 8) \div 2$$

- a. 38
 - b. 36
 - c. 148
 - d. 37
-

39. An object of mass 12 kg is at a certain height above the ground. If the potential energy of the object is 480 J, find the height at which the object is with respect to the ground. Given, $g = 10 \text{ ms}^{-2}$.

(+1, -0.33)

- a. 5 m
- b. 8 m
- c. 4 m

d. 6 m

40. In the Fibonacci series each number is defined as $F_n = F_{n-1} + F_{n-2}$. If $F_0 = 0$ and $F_1 = 1$, then find out the 10th number in the sequence? (+1, -0.33)

a. 22

b. 55

c. 34

d. 57

41. 1 kWh = ? (+1, -0.33)

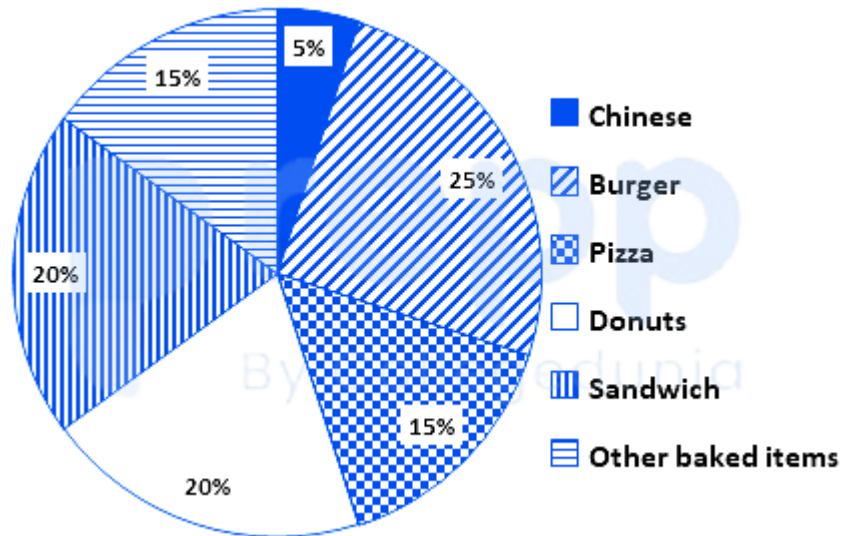
a. 360000 J

b. 3600 J

c. 36000 J

d. 3600000 J

42. The following pie diagram show information the sales of different type of food items by restaurant "XYZ" (+1, -0.33)



The total revenue made by the restaurant in NOV 2017 was 35 lakhs.

How much revenue was made by the restaurant " XYZ through the sales of Chinese food items?

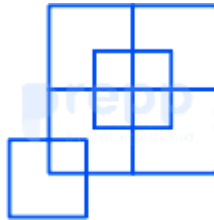
- a. 1.5 Lakhs
- b. 2 Lakhs
- c. 0.5 Lakhs
- d. 1.75 Lakhs

43. The SI unit of 'g' is same as that of acceleration, that is _____. (+1, -0.33)

- a. ms^1
- b. ms^{-2}
- c. ms^2
- d. ms^{-1}

44. Find the number of squares in the given picture.

(+1, -0.33)



- a. 8
- b. 6
- c. 10
- d. 12

45. Who has played the lead role in the movie 'Newton' released in 2017?

(+1, -0.33)

- a. Salman Khan
- b. Aamir Khan
- c. Shahrukh Khan
- d. Raj Kumar Rao

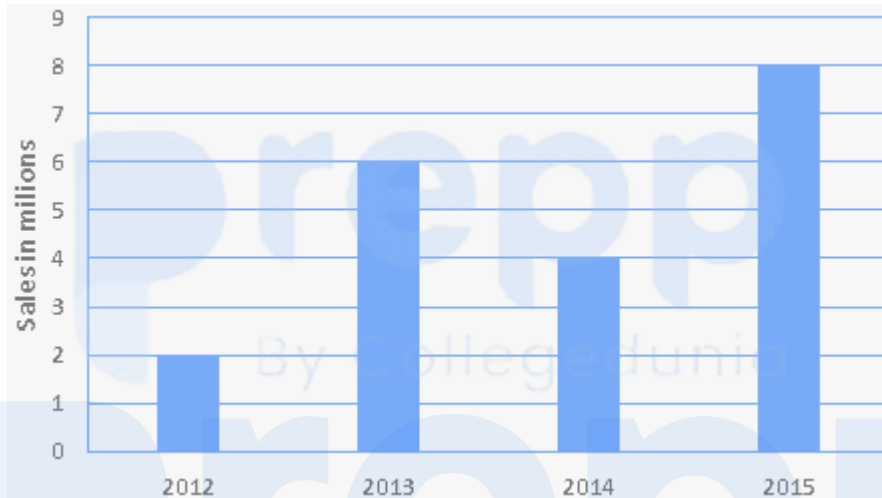
46. I walk a certain distance and ride back, taking $\frac{13}{2}$ hours in total. I could walk both ways in a total of $\frac{31}{4}$ hours. How long will it take me to ride both ways?

(+1, -0.33)

- a. 6 h 15 min
- b. 5 h 55 min
- c. 4 h 15 min

d. 5 h 15 min

47. The given bar graph shows the sales revenue of steel company 'ABC' for the past four years. (+1, -0.33)



What was the total sales revenue in 2015 (in million \$)?

- a. 2
- b. 4
- c. 8
- d. 6

48. Kiran swims in a 90 m long pool. He covers 360 m in two minutes by swimming from one end to the other and back along the same straight path. Twice. Find the average velocity of Kiran. (+1, -0.33)

- a. 4 ms^{-1}
- b. 5 ms^{-1}
- c. 3 ms^{-1}

d. 0 ms^{-1}

49. In a code language, BEE is written as YVV. What is the code for ANT? (+1, -0.33)

a. ZMG

b. ZMH

c. ZUG

d. ZPG

50. What does a light year measure? (+1, -0.33)

a. Velocity

b. Distance

c. Energy

d. Power

51. _____ connects bones to other bones.. (+1, -0.33)

a. Ligament

b. Areolar

c. Tendon

d. Cartilage

52. A solution contains 31 g of common salt in 320 g of water. Calculate the concentration in terms of mass by mass percentage of the solution. (+1, -0.33)

- a. 9.60%
- b. 8.83%
- c. 9.09%
- d. 9.80%

53. _____ was conceived on the principle of 'one nation, one tax and one market'. (+1, -0.33)

- a. ATM cards
- b. The Goods and Service Tax
- c. Demonetization
- d. Salaries of defence personals

54. Which of the following is NOT based on Archimedes' principle? (+1, -0.33)

- a. Lactometers
- b. Hydrometers
- c. Odometers
- d. Submarines

55. Part IV of the Indian Constitution deals with _____. (+1, -0.33)

- a. Directive Principles of State Policy
- b. Human Rights
- c. The Union Judiciary
- d. Parliament

56. If $7^2 = 49$; $67^2 = 4489$; then $667^2 = \text{-----}$ (+1, -0.33)

- a. 448844
- b. 444088
- c. 444888
- d. 444889



57. (+1, -0.33)

Choose the correct picture that fit the blank place



- a. D

b. B

c. A

d. C

-
58. Read the given statement(s) and conclusions carefully and select which of the conclusions logically follow(s) from the statements(s): (+1, -0.33)

Statement:

"Don't park the vehicle here. Don't you see the no parking sign here?" says Rannu to Sharmu.

Conclusions:

I. Rannu understands the meaning of no parking sign.

II. Sharmu does not follow the road rules.

a. Neither I nor II follows

b. Both I and II follow

c. Only conclusion II follows

d. Only conclusion I follows

-
59. Who among the following was awarded the Rajiv Gandhi Khel Ratna award for Hockey in 2017? (+1, -0.33)

a. Sandeep Singh

b. Birendra Lakra

c. PR Sreejesh

d. Sardar Singh

60. Which Indian actor has most followers on Twitter? (+1, -0.33)

- a. Amitabh Bachchan
 - b. Sushant Singh Rajput
 - c. Priyanka Chopra
 - d. Shah Rukh Khan
-

61. The value of two angles of a quadrilateral is 65° each. The other two angles are also equal. Find out the value of these angles. (+1, -0.33)

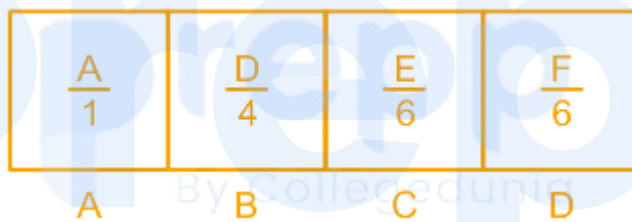
- a. 125°
 - b. 115°
 - c. 105°
 - d. 100°
-

62. The sum of ages of 6 Persons A, B, C, D, E and F in a company born at the intervals of 5 years each is 105 years. What is the age of the oldest person? (+1, -0.33)

- a. 25 years
- b. 15 years
- c. 30 years
- d. 20 years

63. The time duration that would elapse between 12:37 p.m. of 11th April 2019 and 12:29 p.m. of 12th April 2020 is (+1, -0.33)
- a. 366 days 23 hours 52 mins
 - b. 367 days 8 mins
 - c. 365 days 23 hours 52 mins
 - d. 366 days 8 mins

64. Find the Odd one out: (+1, -0.33)



- a. A
- b. C
- c. D
- d. B

65. Find the mirror image of the given figure if the mirror is placed at line MN. (+1, -0.33)





- a. A
- b. B
- c. D
- d. C

66. Find the next number in the given series. (+1, -0.33)

8, 14, 23, ?, 50

- a. 35
- b. 34
- c. 38
- d. 40



67. (+1, -0.33)

The given symbol represents _____ electrical component.

- a. Rheostat
- b. Electric bulb

c. Ammeter

d. Resistor

68. The formula to determine the height of the rocket above the ground at any time during the rocket's flight is given by: $h = 119t - 7t^2$ where t = the time, in seconds, that has elapsed since the rocket was launched, and h = the height, in meters, of the rocket above the ground at time t . (+1, -0.33)

The value of h was 0 when the rocket hit the ground. How many seconds after the rocket was launched did it hit the ground?

a. 17

b. 10

c. 7

d. 0

69. Which one of the following is highly exothermic? (+1, -0.33)

a. Dissolving copper sulphate in water

b. Dissolving bleaching powder in water

c. Dissolving washing soda in water

d. Dissolving sulphuric acid in water

70. £1475 was invested for 5 years @ 4% simple interest per annum. The interest accrued would be £ _____. (+1, -0.33)

a. 295

b. 442.5

c. 590

d. 147.5

71. Who among the following is the current Speaker of the Lok Sabha? (As of 2018) **(+1, -0.33)**

a. Ghulam Nabi Azad

b. Anoop Mishra

c. PJ Kurien

d. Sumitra Mahajan

72. Daulat Khan sent messengers to Babur in Kabul, offering his allegiance in exchange for assistance against the emperor **(+1, -0.33)**

a. Bahlul Lodi

b. Ibrahim Lodi

c. Ghazi Khan Lodi

d. Sikandar Lodi

73. Reema bought a car for Rs 75,000 and spent Rs. 10,000 on its repairs. She sold this car to Chiru at a profit of 15% Chiru who sold it to Ritu at a profit of 10%. What did Ritu pay for the car? **(+1, -0.33)**

a. Rs. 1,02,575

- b. Rs. 1,02,252
 - c. Rs. 1,07,525
 - d. Rs. 1,05,752
-

74. Government of India declared August 15, 2017 to be celebrated as: (+1, -0.33)

- a. Sankalp Dhara
 - b. Sambhavana Diwas
 - c. Sankalp Parva
 - d. Sankalp Diwas
-

75. Pointing to a photograph of a person Ramesh said, "This person is the son of the only child of my mother." Then how is Ramesh related to that person? (+1, -0.33)

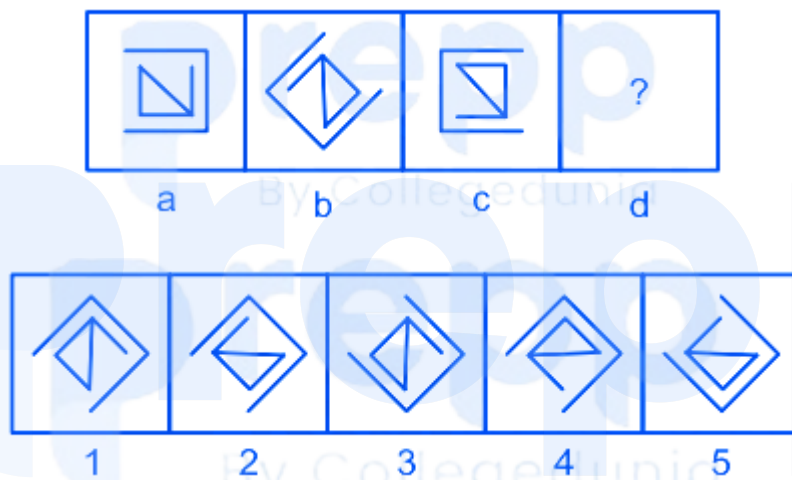
- a. Uncle
 - b. Grand Father
 - c. Father
 - d. Brother
-

76. A tank has three pipes. The first one fills up the tank in 30 min and the second one can fill it up in 45 min. The third one drains out the tank. With all the pipes open it takes 27 min to fill up the tank. Find out how long it takes the third pipe alone to empty a full tank? (+1, -0.33)

- a. 56 min

- b. 50 min
- c. 52 min
- d. 54 min

77. Son and father both identified that Figure a and b are related in a particular way or manner. Establish the same relationship between c and d choosing from five alternatives. (+1, -0.33)



- a. 1
- b. 2
- c. 4
- d. 3

78. A train leaves from a station and moves at 40 km/hr. After 2 hours, another train leaves from the same station and moves in the same direction at a certain speed. If the second train catches up with the first train in 4 hours, what is the speed of the second train? (+1, -0.33)
- a. 55 km/hr

- b. 50 km/hr
- c. 60 km/hr
- d. 65 km/hr

79. Which of the following pairs have the same SI units? (+1, -0.33)

- a. Force and pressure
- b. Force and distance
- c. Work and energy
- d. Momentum and force

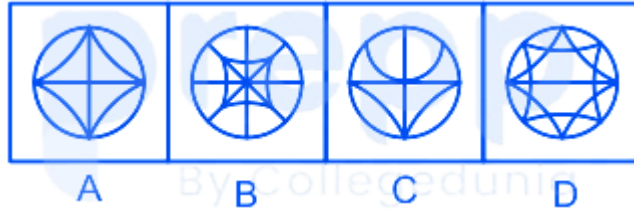
80. Which film was given Best Feature Film Award at the 64th National Awards in 2017? (+1, -0.33)

- a. Kaasav
- b. Dangal
- c. Rustom
- d. Sultan



81. (+1, -0.33)

The above figure is embedded in one of these four figures. Identify that figure.



- a. A
- b. D
- c. C
- d. B

82. Which two alpha-numeric sets will follow in the given series? (+1, -0.33)

N - 14, P - 16, R - 18, T - 20, ?, ?

- a. X - 24, P - 16
- b. L - 12, O - 15
- c. V - 22, Z - 26
- d. V - 22, X - 24

83. Sham's marks are 25% more than that of Divya's. By what percent is Divya's marks less than that of Sham's? (+1, -0.33)

- a. 10%
- b. 40%
- c. 20%
- d. 15%

84. Which of the following numbers is divisible by 9?

(+1, -0.33)

- a. 58556
- b. 56112
- c. 49653
- d. 89445

85. A statement is followed by two arguments. Decided which of the arguments is/are strong with respect to the statement.

(+1, -0.33)

Statement:

Should taxes on perfume be further increased?

Argument:

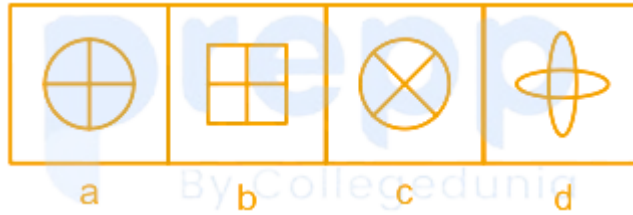
1. Yes, perfume is a luxury item used by rich people only.

2. No, Perfume is used by poor people also.

- a. Neither argument 1 and 2 is strong
- b. Either argument 1 or 2 is strong
- c. Only argument 1 is strong
- d. Only argument 2 is strong

86. Find the ODD one:

(+1, -0.33)



- a. b
- b. d
- c. a
- d. c

87. Consider the given statement(s) and decide which of the given assumption(s) is/are implicit in the statement. (+1, -0.33)

Statement:

Crying children seek more attention from parents.

Assumptions:

- I. They are unable to communicate properly.
- II. The parents are engrossed in their work and leave the children to play by themselves.

- a. Neither I nor II is implicit.
- b. Only I is implicit
- c. Both I and II are implicit
- d. Only II is implicit

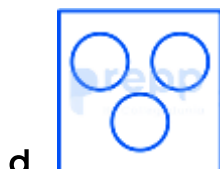
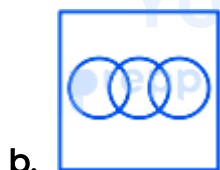
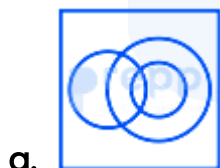
88. Select the term that relates to the third term in the same way that the second term relates to the first term. (+1, -0.33)

Ammeter : Current :: Ohmmeter : ?

- a. Pressure
- b. Resistance
- c. Speed
- d. Voltage

89. Which of the following Venn diagrams indicates the best relation between: (+1, -0.33)

English, Chinese, French



90. Find the next letter in the given series.

(+1, -0.33)

MD, NE, OF, PG, ?

- a. HV
- b. QK
- c. CE
- d. QH

91. During which of the following types of reproduction do the fully matured tiny individuals detach from the parent body and become new independent individuals?

(+1, -0.33)

- a. Fission
- b. Regeneration
- c. Budding
- d. Multiple fission

92. If Rajan is facing East and then turns 270° clockwise and then 90° anti-clockwise, in which direction is he facing now?

(+1, -0.33)

- a. East
- b. South
- c. West
- d. North

93. Hydra, starfish, planaria undergo: (+1, -0.33)

- a. sporulation
- b. regeneration
- c. Budding
- d. fragmentation

94. If 25, 35 and p are in continued proportion, then the value of p is _____. (+1, -0.33)

- a. 60
- b. 75
- c. 49
- d. 50

95. The LCM of two natural numbers is 432. Which of the following can be their HCF? (+1, -0.33)

- a. 12
- b. 34
- c. 26
- d. 32

96. Mr. A starts a business with an investment of Rs. 28,000. Mr. B joins the business after 5 months. After 2 more months Mr. C joins. If the ratio of (+1, -0.33)

their profit after one year is 4 : 2 : 3, then find out the investments made by Mr. B and Mr. C in rupees?

- a. Rs. 20,000, Rs. 30,000
- b. Rs. 50,000, Rs. 20,000
- c. Rs. 12,000, Rs. 25,200
- d. Rs. 24000, Rs. 50,400

97. The bonds formed by the elements having larger atoms are: (+1, -0.33)

- a. weaker
- b. stronger
- c. very weak
- d. very strong

98. Which of the following arguments is strong? (+1, -0.33)

Statement:

Indian professionals working abroad should be called back to India.

Argument:

- 1. Yes, one must serve their motherland first and forget about earnings.
- 2. No, India has enough talented professionals.

- a. Only argument 2 is strong
- b. Neither 1 nor 2 is strong

- c. Only argument 1 is strong
- d. Both 1 and 2 are strong

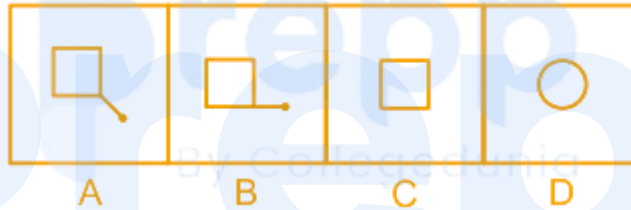
99. Pick the figure that will complete the given series.

(+1, -0.33)

Problem Figures



Answer Figures



- a. C
- b. A
- c. B
- d. D

100. Which of the following is/are true/false about the speed of sound in different media at 25° C?

(+1, -0.33)

- A. In oxygen gas, the speed of sound is 316 m/s
- B. In water (distilled), the speed of sound is 1498 m/s

- a. Only A is true

- b. Only B is true
- c. Neither A nor B is true
- d. Both A and B are true

Prepp

Your Personal Exams Guide

Answers

1. Answer: d

Explanation:

The correct answer is option 4 i.e. Ravichandran Ashwin.

- The CEAT Cricket Rating is the first rating system to reward players for the outstanding performance in the cricket on an annual basis from 1995.
- CEAT rating system includes the player's performance in Test Cricket and One Day Internationals format over a period of 12 months from 1 May to 30 April.
- The CEAT Cricket Rating Awards 2019 –
 - The Batsman of the year – Virat Kohli
 - The Bowler of the Year – Jaspreet Bumrah
 - The Test Player of the Year – Cheteshwar Pujara

Year	Winners of the CEAT Cricket Rating
2016-17	Ravichandran Ashwin
2018-19	Virat Kohli
2019-20	Rohit Sharma

2. Answer: a

Explanation:

Solution:

Square of 87 = 7569

Square of 93 = 8649

Square of 83 = 6889

Square of 77 = 5929

Hence $\sqrt{5929} = 77$

3. Answer: b

Explanation:

The correct answer is option 2 i.e. 16 group and 3 period

- Sulfur ($_{16}\text{S}$) has a total of 16 electrons ($2+8+6=16$), and the **atomic number** of Sulfur is "16".
 - Sulfur is placed in the periodic table in place of **16 groups and 3 periods**.
 - The chemical elements are ordered **by the atomic number** in the periodic table.
 - "Chalcogen" is the Group name of periodic table **16** and classification is "Non-metallic".
-

4. Answer: a

Explanation:

Given,

The above graph shows the expenditure of a public sector company 'ABC' under different heads for the financial year 2015-16.

Calculation:

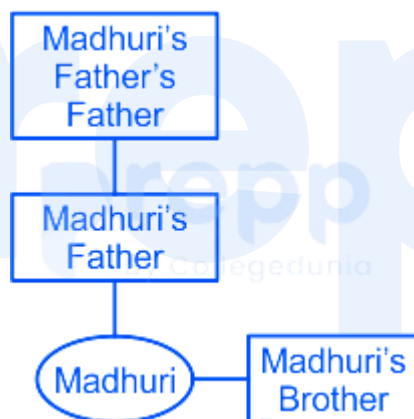
The company ABC spend on infrastructure in 2015-2016 = 20 lakh crores.

5. Answer: d

Explanation:

Symbol in Diagram	Meaning
○	Female
□	Male
==	Married couple
—	Siblings
	Difference of a generation

Drawing the family tree,



Madhuri's brother's only sister's father's father is her paternal grandfather.

Hence, "paternal grandfather" is the correct answer.

6. Answer: a

Explanation:

CONCEPT:

- Resistance (R): The resistance offered to the flow of current is known as the resistance.
- SI unit of resistance is the ohm (Ω).

- Mathematically resistance can be written as

$$\Rightarrow R = \frac{\rho l}{A}$$

Where R = resistance, l = length, A = area of cross-section and ρ = resistivity

EXPLANATION:

- That wire is doubled on it means to fold the length of wire. That is its length will get half and the area of the cross-section will get doubled.

Given: $R_1 = R = 5 \Omega$

As we know that the resistance of the wire is,

$$\Rightarrow R = \frac{\rho l}{A}$$

When the wire is doubled then, then its area will increase automatically. But the volume of the wire will be the same.

$\therefore$ The volume of original wire = volume of new wire

$$\Rightarrow A_1 l_1 = A_2 l_2$$

$$\Rightarrow A_1 l_1 = A_2 l_1 / 2$$

$$\Rightarrow A_2 = 2A_1$$

- The resistance of the wire in 1st case

$$\Rightarrow R_1 = R = \frac{\rho l_1}{A_1} \quad \text{-----(1)}$$

- The resistance of the wire in 2nd case

$$\Rightarrow R_2 = \frac{\rho l_2}{A_2} = \frac{\rho \frac{l_1}{2}}{2A_1} = \frac{\rho l_1}{4A_1} \quad \text{-----(2)}$$

Divide equation 1 and 2, we get

$$\Rightarrow \frac{R}{R_2} = \frac{\frac{\rho l_1}{A_1}}{\frac{\rho l_1}{4A_1}} = 4$$

$$\Rightarrow R_2 = 5/4 \Omega = 1.25 \Omega$$

7. Answer: b

Explanation:

Concept:

To find the sum, we need to find the LCM of all the values in denominator. This will make denominator the same of each fraction, then, we can add all the values in the numerator very easily.

LCM = Least common multiple (the least value which is divisible by all the values considered)

Example: 2, 3, 4

LCM = 12 (Least value exactly divisible by 2, 3, and 4)

Important Point: We can also consider any multiple of LCM to ease the fractions as done in the solution. But remember, that multiple value will not be the LCM.

Calculation:

$$\frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \frac{1}{56}$$

$$\Rightarrow \frac{420+210+126+84+60+45}{2520}$$

$$\Rightarrow 945/2520$$

Divide numerator and denominator by 315, we get

$$\Rightarrow 3/8$$

8. Answer: a

Explanation:

Option 1 is NOT correct.

- Blood is known as a **connective tissue** due to it has a matrix.
- The **red blood cells** called **erythrocytes**, and white blood cells called **leukocytes**.
- **The vascular system**, comprising **arteries, capillaries, and veins**, and these are supplies **oxygen and nutrients** to all organs.
- An adult contains blood for **approximately 7% (5 to 6 lit)** of their total body weight.
- **The life span** of human **RBC and WBC** are respectively **115–120 and 3–5 days**.

9. Answer: b

Explanation:

The pattern followed is,

There are three geometrical figures given in the figures above.

In the first figure three are present straight in a row.

In the second figure square and triangle are immersed inside the circle, which is the last image in the first figure.

In the third figure, three are again straight in a row.

And,

In the fourth figure, circle and square should be immersed in a triangle, which is the last image in the third figure.

The figure which will come next in the series is,



Hence, option 2 is the correct answer.

10. Answer: a

Explanation:

The correct answer is option 1 i.e. Dalveer Bhandari.

- Judge Dalveer Bhandari won with an overwhelming majority in the **United Nations General Assembly for the International Court of Justice**.
- The **International Court of Justice (ICJ)** has a panel of **15 judges**.
- They are elected by the General Assembly and Security Council for the **tenure of nine-year**.
- The court is situated in **the Hague, Netherlands**.
- The International Court of Justice was established by **the League of Nations in June 1945**.

11. Answer: b

Explanation:

The correct answer is option 2 i.e. less than 5.5.

- When the **pH value in the mouth falls below 5.5** then the **tooth decay** starts.
- It is happened due to the **bacteria present in the mouth**.
- The Bacteria produce the acid **by the degradation of sugar and food particles**, which remain in the mouth after eating.
- Acid affects the **enamel of teeth** and gradually **tooth decays**.

12. Answer: d

Explanation:

The correct answer is option 4 i.e. Aditya LI.

- The **Aditya L-1** Mission is expected to begin in the **year 2020** .
- It will closely observe the Sun and study its **atmosphere and magnetic field** .
- **ISRO** has classified the **Aditya L-1** as a **400 kg-class** .
- It will be launched from **Polar Satellite Launch Vehicle-XL (PSLV-XL)** .

13. Answer: c

Explanation:

Given:

Ratio of average of three people and average of two people = 9:7

Difference between the average of three people and two people = 12

Calculation:

Let the average of three people be x

Let the average of two people be y

According to question:

$$\Rightarrow x / y = 9/7 \text{ ---- (i)}$$

$$\Rightarrow x - y = 12 \text{ ---- (ii)}$$

$$\Rightarrow x = y + 12$$

Putting the value of x in equation i

$$\Rightarrow (y + 12) / y = 9/7$$

$$\Rightarrow 7y + 84 = 9y$$

$$\Rightarrow 84 = 2y$$

$$\Rightarrow y = 42$$

$$\therefore x = 54$$

$$\Rightarrow (54 \times 3) + (42 \times 2) / 5 = 246 / 5$$

$$\Rightarrow 49.2$$

14. Answer: d

Explanation:

Bus has an engine and piston is inside an engine.

The correct Venn diagram is,



Hence, option 4 is the correct answer.

15. Answer: a

Explanation:

The correct answer is option 1 i.e. Period 6

- There are a total of **7 periods** in the periodic table.
- The first period contains **2 elements, Hydrogen, and Helium**.
- **The sixth period** of periodic table **contains 32 elements**.
- It is beginning with **cesium and ending with radon**.
- **Lead (Pb)** is currently the last stable element whereas all subsequent elements are **radioactive**.
- It is tied with Period 7 which also has 32 elements.

16. Answer: a

Explanation:

According to the given series,

6 6 8 **5 5** 3 7 3 7 2 5 8 8 7 8 1 **5 5** 3

There are two 5's in the above sequence that are completely divisible by the number on their left but not divisible by the number on their right.

Hence, "option 1" is the correct answer.

17. Answer: a

Explanation:

The correct answer is option 1 i.e. Raised Hammer.

- In a resting state, **potential energy** is present in an object.
- **Example** – Water-filled in a drum, oil filled in a bottle, Wood, and potential energy is present in a book on a table.
- **Raised Hammer** has **potential energy** in it.
- Due to motion in an object is called **kinetic energy of that object**.
- **Example** – In flowing water, the arrow released from the bow, the ball was thrown by the children has kinetic energy.
- It is measured using the unit **Joule (J)**.

18. Answer: b

Explanation:

The correct answer is Nilgiri Hills.

- "Toda" people are a Dravidian tribes group who live in the Nilgiri Mountains of Tamil Nadu.
- Their huts stand on wooden structures and the roofs are semi-cylindrical and springy.
- Toda people do traditional milk business and trade in Baru and bamboo items.
- Kumaon hills situated in Uttarakhand state and it is called the 'Lake District' of India.
- Khasi Hills located in the Meghalaya state.

19. Answer: c

Explanation:

According to the given statements,

Statement 1: Arti is six years older than Pranavi.

Statement 2: Pranavi's sister was born in 1982

Statement 3: Arti's sister is two years younger than Pranavi's sister, who is eight years younger than Pranavi

From statement 3, we can say that Arti's sister was born in 1984 and Pranavi was born in 1974 (from statement 2 Pranavi's sister is 8 years younger than Pranavi)

From statement 1, Arti is six years older than Pranavi, so Arti was born in 1968

Hence, all the statements are required.

20. Answer: d

Explanation:

The correct answer is option 4 i.e. Ahmedabad.

- The Sabarmati river is the **major west-flowing rivers** in India.
- It originates in the **Aravalli Range of Rajasthan** and **falls the Gulf of Khambhat** of the **Arabian Sea**.
- Sabarmati is known as one of the most polluted rivers in India.

•

City	River
Ahmedabad	Sabarmati river
Vadodara	Vishwamitri
Surat	Tapi river

21. Answer: b

Explanation:

Concept:

Geometric mean: The value which indicates the central tendency by using the product of the values of a set of numbers.

Formula: $GM = (\text{Product of all numbers in the set})^{1/n}$

Where, n = total numbers in the set

Example: 2, 3, 4, 5

$$GM = (2 \times 3 \times 4 \times 5)^{1/4} = (120)^{1/4}$$

Calculation:

$$G = G_1 \times G_2 \times G_3 \dots \times G_r$$

22. Answer: b

Explanation:

The correct answer is option 2 i.e. Hydrogen.

- **Hydrogen** is a chemical element and it is contained in **the first periods** of the periodic table.
- **Hydrogen** is represented by a **symbol "H"** and with the **atomic number "1"**.
- **Hydrogen** is **colorless, odorless, nonmetallic, and tasteless**.

•

Element	Symbol	Atomic Number
Gold	Au	79
Mercury	Hg	80
Carbon	C	6

23. Answer: a

Explanation:

The correct answer is option 1 i.e. Chetan Bhagat.

- The author of the book "**One Indian Girl**" is **Chetan Bhagat**.
- Chetan Prakash Bhagat is a famous **Indian author, Bollywood screenwriter, and inspirational speaker**.
- He has written many famous novels like - **The Girl in Room 105 (2018), One Indian Girl (2016), Half Girlfriend (2014), etc.**

•

Famous Book	Author
The Heart of India	Mark Tully
The Everything Store: Jeff Bezos and the Age of Amazon	Brad Stone.
Keepers of the Kalachakra	Ashwin Sanghi

24. Answer: c

Explanation:

The correct answer is option 3 i.e. Sanjay Gubbi and Purnima Burman.

- **The Whitley Awards is known as Green Oscars** – It is a prestigious international award for **the contribution to nature conservation**.
- Each Award Winner receives a prize worth **£40,000 in project funding for one year**.
- The two Indian activists won the annual Whitley Awards, for their contribution in the field of **animal and bird conservation in India**.
- **Purnima Barman (Assam) and Sanjay Gubbi (Karnataka)** won the prestigious 'Green Oscars' Award.
- **The Whitley Awards is established in 1994 by Edward Whitley.**

25. Answer: b

Explanation:

The correct answer is option 2 i.e. 18.

- The noble gases (**Group 18**) are found on the **right side of the periodic table**.
- The noble gas-filled its **valence shells and do not participate in any chemical reactions**.
- **Total 7 noble gases** found in group 18 like **Helium (He), (Neon) Ne, Argon (Ar), Krypton (Kr), etc.**
- **Neon (Ne)** is most useful for its use of **lighting and signs**.
- **Helium (He)** is the **second most abundant** element in the **cosmos**.

Table: Modern Periodic table

GROUP NUMBER

1 2

3 4 5 6 7 8 9 10 11 12

13 14 15 16 17 18

Alkali metals

Alkaline Earth Metals

Halogens

Nobel gases

Transition Metals

GROUP NUMBER

The zig zag line separates the metals from the non metals

PERIODS

1	2											13	14	15	16	17	18	
1	H																	He
2	3	4											5	6	7	8	9	10
	Li	Be											B	C	N	O	F	Ne
3	11	12	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Na	Mg											Al	Si	P	S	Cl	Ar
4	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
5	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
6	55	56	57	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
	Cs	Ba	La*	Hf	Ta	E	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
7	87	88	89	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118
	Fr	Ra	Ac**	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Uut	Fl	Uup	Lv	Uus	Uuo

*Lanthanoides 6

58	59	60	61	62	63	64	65	66	67	68	69	70	71
Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu

**Actinoides 7

90	91	92	93	94	95	96	97	98	99	100	101	102	103
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr

26. Answer: c

Explanation:

Given,

The Speed of the boat in still water = 12 km/hr

Boat covers the distance of 38 km upstream in 4 hrs.

Formula:

Speed = Distance/Time

If speed of boat in still water and stream be x km/hr and y km/hr respectively,

Upstream speed = (x - y) km/hr

Downstream speed = (x + y) km/hr

Calculation:

Let the speed of stream be x km/hr

Upstream speed = $(12 - x)$ km/hr

According to the question

$$(12 - x) = 38/4$$

$$\Rightarrow (12 - x) \times 4 = 38$$

$$\Rightarrow 48 - 4x = 38$$

$$\Rightarrow 4x = 48 - 38$$

$$\Rightarrow 4x = 10$$

$$\Rightarrow x = 10/4$$

$$\Rightarrow x = 2.5 \text{ km/hr}$$

$\therefore$ Speed of the stream is 2.5 km/hr

27. Answer: c

Explanation:

The correct answer is option 3 i.e. speeds down.

- When the light rays travel from **rarer medium to denser medium** then they **bend towards normal**.
- In this case angle of **refraction is smaller than the angle of incidence**.
- When the **light rays travel from denser medium to rarer medium** then they **bend away from the normal**.
- In this case, the **angle of refraction is greater than the angle of incidence**.

28. Answer: a

Explanation:

The correct answer is option 1 i.e Race walk.

- Gurmeet Singh won a gold medal 20 km race walk in a time of 1:20:29 in the Asian Games event 2016.
- His career turned around when he started to take training at Sports Authority of India, Bangalore center.
- Gurmeet Singh belongs to Uttarakhand, India.

29. Answer: d

Explanation:

Given,

$$(x - 2)^2 - 36 = 0; x \in \mathbb{N}$$

Formula:

If $(x - y)^2 = k$, then

$$\Rightarrow x - y = k \text{ or } -k$$

$$\Rightarrow x = y + k \text{ (or) } (y - k)$$

Calculation:

$$(x - 2)^2 - 36 = 0$$

$$\Rightarrow (x - 2)^2 = 36$$

$$\Rightarrow x - 2 = \sqrt{36}$$

$$\Rightarrow x - 2 = 6$$

$$\Rightarrow x = 6 + 2$$

$$\therefore x = 8$$

30. Answer: d

Explanation:

The correct answer is option 4 i.e. Connective.

- Bone tissue is a type of **connective tissue**.
- Bone tissue is made of different types of bone cells.
- Three types of cells in bone – **Osteoblasts, Osteocytes, and Osteoclasts**.
- **Osteoblasts** are responsible for **making bone for growth and remodelling**.
- There are 3 types of bone tissue
 - **Compact tissue** – It is a hard (Outer part of bones).
 - **Cancellous tissue** – It is sponge-like tissue (inside bones).
 - **Subchondral tissue** – Cartilage

31. Answer: b

Explanation:

Given,

The three groups G_1 , G_2 , and G_3 in a College with 20, 40, and 60 students respectively.

Average marks obtained by groups G_1 , G_2 , and G_3 are 50%, 60%, and 70% respectively.

Formula:

Average marks = Sum of all observations / Total number of observation

Calculation:

Sum of percentage of all three groups = $(20 \times 50\% + 40 \times 60\% + 60 \times 70\%)$

$$\Rightarrow (1000 + 2400 + 4200)\%$$

$$\Rightarrow 7600\%$$

$$\text{Average percentage of all three groups} = 7600 / (20 + 40 + 60)\%$$

$$\Rightarrow 7600 / 120\%$$

$$\Rightarrow 63.33\% \approx 63\%$$

$\therefore$ The average marks of the entire college is 63%

32. Answer: c

Explanation:

The correct answer is option 3 i.e. Carbon.

- The Carbon element consists of only one letter is "C" and its atomic number is 6.
- Carbon is related to group 14 of the periodic table.
- Carbon is the fourth most abundant element in the whole universe.
- It is the second most abundant element in human bodies, the first is Oxygen.
- Diamond and graphite are the two major allotropes the Carbon.
- Carbon is known as the "king of the elements".

Element	Symbol
Chlorine	Cl
Calcium	Ca
Copper	Cu

33. Answer: a

Explanation:

The correct answer is option 1 i.e. 390 AD.

- The scholars at his court were the astronomer **Varahamihira** and the **Sanskrit poet and dramatist Kalidasa**.
- **Chandragupta II** is known as **Vikramaditya**, a powerful emperor (380–415 AD) of northern India.
- He was the son of **Samudra Gupta** who established a vast empire.
- Chandragupta II subjugated (From 388 to 409 AD) Gujarat, the north of Bombay, Saurashtra, in western India, and Malwa.
- The famous astronomer **Varahamihira** and the Sanskrit poet and dramatist **Kalidasa** were lived in the court of **Chandragupta II**.

34. Answer: d

Explanation:

The correct answer is option 4 i.e. Konkani Literature.

Saraswati Samman is an annual award given Indian citizens for their outstanding literary work written.

- It was given in any **22 Indian languages** mentioned in **Schedule VIII**.
- It was established in **1991 by the K. K. Birla Foundation**.
- The first inaugural award was given to **Harivanshrai 'Bachchan'** for his **four-volume autobiography**.
- The famous Konkani writer **Mahabaleshwar Sail** was awarded on 31 August 2016 for his novel '**Hawthan**'.

Year	Winner	Literature
2017	Sitanshu Yashaschandra	Vakhar (Gujarati)
2018	K Siva Reddy	Pakkaki Ottigilite (Telugu)
2019	Vasdev Mohi	Chequebook (Sindhi)

35. Answer: d

Explanation:

Given,

There are three prime numbers.

Product of first two prime numbers is = 1147

Product of last two prime numbers = 1517

Concept:

Prime numbers are those which are divided only by 1 and itself. (2, 3, 5,)

Calculation:

Let the three prime numbers are a, b and c.

According to the question,

$$a \times b = 1147$$

$$\Rightarrow a \times b = 31 \times 37$$

$$\text{Also, } b \times c = 1517$$

$$\Rightarrow b \times c = 37 \times 41$$

∴ The three numbers are 31, 37, and 41.

36. Answer: a

Explanation:

Instrument is an object that is played to produce musical sounds.

Similarly,

Bell is a hollow metal object that sounds a clear musical note when struck and makes a ringing sound.

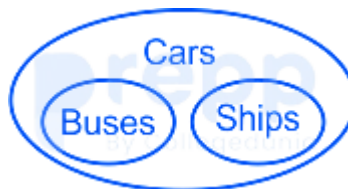
'Ring' is related to the third word on the same basis as the second word is related to the first word.

Hence, "ring" is the correct answer.

37. Answer: d

Explanation:

Drawing the Venn diagram,



Conclusion 1: All cars are ships → False (This is possible but not definite)

Conclusion 2: Some buses are cars → True (This is definitely true)

Hence, "only conclusion 2" follows.

★ Important Points

Some is a subset of all.

If it is given that, 'All A are B' then the conclusion 'Some A are B' will always follow.

38. Answer: d

Explanation:

Given:

$$G = (96 \div 12) + 14 \times (12 + 8) \div 2$$

Concept:

Follow BODMAS rule to solve this question, as per the order given below:

Step-1: Parts of an equation enclosed in 'Brackets' must be solved first, and in the bracket,

Step-2: Any mathematical 'Of' or 'Exponent' must be solved next,

Step-3: Next, the parts of the equation that contain 'Division' and 'Multiplication' are calculated,

Step-4: Last but not least, the parts of the equation that contain 'Addition' and 'Subtraction' should be calculated.

Calculation:

$$G = (96 \div 12) + 14 \times (12 + 8) \div 2$$

$$\Rightarrow G = 8 + 14 \times 20 \div 2$$

$$\Rightarrow G = 8 + 14 \times 10$$

$$\Rightarrow G = 8 + 140$$

$$\Rightarrow G = 148$$

$$\therefore \text{One fourth of } G = 1/4 \times 148 = 37$$

39. Answer: c

Explanation:

The correct answer is option 3 i.e. 4 m.

- Mass of the object = 12 kg
- Potential energy = 480 J
- Potential energy is given by
- **Potential energy (P) = $m \times g \times h$**
- $480 = 12 \times 10 \times h$
- **$h = 4 \text{ m}$**
- The object is at a height of **4 m** from the ground.

40. Answer: c

Explanation:

In Fibonacci series each number is defined as $F_n = F_{n-1} + F_{n-2}$

Given: **Your Personal Exams Guide**

$$F_0 = 0$$

$$F_1 = 1$$

Calculation:

$$\Rightarrow F_0 = 0$$

$$\Rightarrow F_1 = 1$$

$$\Rightarrow F_2 = F_1 + F_0 = 1 + 0 = 1$$

$$\Rightarrow F_3 = F_2 + F_1 = 1 + 1 = 2$$

$$\Rightarrow F_4 = F_3 + F_2 = 2 + 1 = 3$$

$$\Rightarrow F_5 = F_4 + F_3 = 3 + 2 = 5$$

$$\Rightarrow F_6 = F_5 + F_4 = 5 + 3 = 8$$

$$\Rightarrow F_7 = F_6 + F_5 = 8 + 5 = 13$$

$$\Rightarrow F_8 = F_7 + F_6 = 13 + 8 = 21$$

$$\Rightarrow F_9 = F_8 + F_7 = 21 + 13 = 34$$

$\therefore F_9 = 34$ [F_0 and F_1 are first two numbers of the series]

The Fibonacci Sequence is the series of numbers:

0, 1, 1, 2, 3, 5, 8, 13, 21, **34**

$\therefore$ The 10th term of the series is 34.

41. Answer: d

Explanation:

The correct answer is option 4 i.e. 3600000 J

- When a 1000 watt electrical appliance is used for an hour then, 1 Kwh is electrical energy consumed.
- The unit of energy is the watt and 1 Watt = 1 Joule /second.
- (One kilowatt-hour is equal to the energy of 1,000 joules)
- One kilowatt-hour = $1000 \times 3600 = 3600000$ J or 3.6 Megajoules
- Work is done in terms of joules and this is per second.

42. Answer: d

Explanation:

Given,

The total revenue made by the restaurant in NOV 2017 was 35 lakhs.

Revenue made by the restaurant "XYZ" through the sales of Chinese food items is = 5%

Calculation:

Revenue made by the sales of Chinese food items = 5% of 35

$$\Rightarrow 35 \times 5/100$$

$$\Rightarrow 1.75 \text{ lakhs}$$

43. Answer: b

Explanation:

The correct answer is option **2 i.e. ms⁻²**.

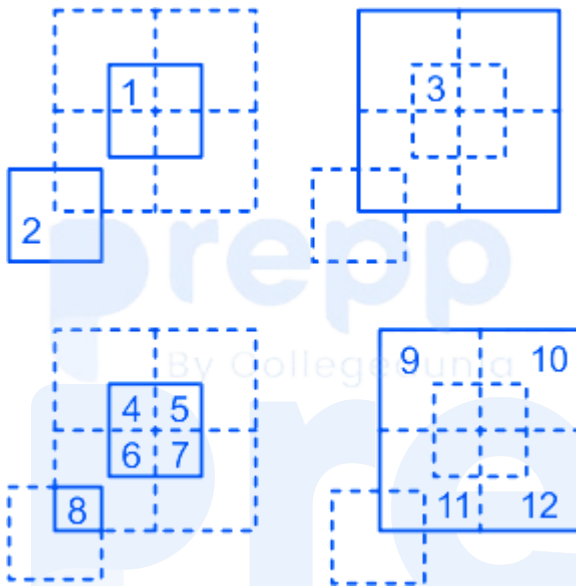
★ Key Points

- **Earth pulls** an object towards **its center** . The acceleration generated due to this force is called **gravity acceleration (g)** .
- **In SI units** this acceleration is measured in **meters per second squared (m/s²)** .
- The acceleration due to the gravity of the earth is referred to as '**g**' .
- The approximate value of the acceleration due to the gravity of the earth is **9.8 m/s²**.
- The weight of an object on the Earth's surface is **the downwards force on that object** .
- It was explained by **Newton's second law of motion** or **F = ma** .

44. Answer: d

Explanation:

The number of squares in the given figure is,



Hence, "12" is the correct answer.

45. Answer: d

Explanation:

The correct answer is option 4 i.e. Raj Kumar Rao.

- In the Newton movie, **Raj Kumar Rao** plays the lead role was a satire on India's election process.
- Rajkummar Rao is known as **Rajkumar Yadav**, an Indian actor.
- He established a career in Hindi cinema and is the recipient of several awards, as a **National Film Award and three Filmfare Awards, etc.**
- Newton was awarded the **National Film Award for the Best Feature Film in Hindi.**
- **Pankaj Tripathi** won a special mention at **65th National Film Awards** in 2018.

46. Answer: d

Explanation:

Given,

The person walks a certain distance and ride back in = $\frac{13}{2}$ hours

The person could walk both ways in a total in = $\frac{31}{4}$ hours

Formula:

If time taken to cover both ways by a same mode of a certain distance is x hrs.

⇒ Time taking to cover only one way of the certain distance in = $x/2$ hrs

Calculation:

Time taken to cover by walking both ways of a certain distance = $31/4$ hrs

⇒ Time taken to cover by waking only one way of the certain distance = $31/4 \times 1/2$
= $31/8$ hrs

Time taken by the persons if he walks a certain distance and ride back in = $13/2$ hrs

⇒ Time taken by the persons if he ride back of the certain distance = $13/2 - 31/8$

= $(52 - 31)/8 = 21/8$ hr

∴ Total time to cover by riding both ways of the certain distance = $21/8 \times 2 = 21/4$ hrs

$21/4$ hrs = 5 hrs 15 min

47. Answer: c

Explanation:

Given,

The given bar graph shows the sales revenue of steel company 'ABC' for the past four years

To Find:

The total sales revenue in 2015 (in million \$)

Calculation:

The total sales revenue in 2015 is = 8 million \$

48. Answer: d

Explanation:

Given,

Kiran cover 360 m distance in = 2 min

Concept:

Average speed = Total distance/total time

Average velocity = Displacement/Time taken

Where, Displacement = distance between the starting and finishing point

Calculation:

$\therefore$ Kiran swims from one end to the other and returned to the same starting point.

$\Rightarrow$ Displacement = $90 - 90 + 90 - 90 = 0$ m

1 min = 60 sec

$\therefore$ Average velocity of Kiran = $0/120 = 0 \text{ ms}^{-1}$

49. Answer: a

Explanation:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The pattern followed is,

B E E
 | | |
 Y V V
 Opposite pair

Similarly,

A N T
 | | |
 Z M G
 Opposite pair

Hence, "ZMG" is the correct answer.

50. Answer: b

Explanation:

The correct answer is option 2 i.e. Distance.

- A light-year unit uses for the measuring of the long distance.

- A light-year is a distance which **"light can cover in one year"**.
- The Light moves at a velocity of about **300,000 kilometers per second**.
- Thus, Light can travel about **10 trillion km**.
- The light-year unit used to **denotes astronomical distances** and measures about **9.46 trillion kilometers (9.46×10^{12} km)**.

51. Answer: a

Explanation:

The correct answer is Ligament.

★ Key Points

- **Ligament** – It connects **bones to other bones** .
- **Areolar** – It holds **organs in place and attaches epithelial tissue to other tissues** .
- **Tendon** – It **connects muscle to bone** and is capable of withstanding tension.
- **Cartilage** – It is rubber-like padding that **covers and protects the ends of long bones at the joints** .

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52. Answer: b

Explanation:

Given:

Quantity of common salt = 31 g

Quantity of water = 320 g

Formula:

Concentration of any component = $\frac{\text{Weight of component}}{\text{Total weight of solution}} \times 100$

Calculation:

Total quantity of solution = $320 + 31 = 351$ g

$\therefore$ Percentage of common salt in solution = $31/351 \times 100 = 8.83\%$

53. Answer: b

Explanation:

The correct answer is option 2 i.e. The Goods and Service Tax.

- The GST was purposed as a “One Market, One Nation, One Tax” reform.
- The Goods and Services Tax (GST), was the **biggest tax reform since Independence in India** .
- Conceived on the principle of 'one nation, one tax, one market', the tax that includes **17 central and state levies**.
- The **tax came into effect** from **1 July 2017** through the of the **101st Amendment** by the Indian government.
- The GST Council approved **four main tax slabs** –5%, 12%, 18 %, and 28% .

54. Answer: c

Explanation:

The correct answer is option 3 i.e. Odometers.

- **Archimedes principle explains** that the buoyant force applied by the fluid is equal to the weight of the displaced fluid.
- **Submarine** – It also works on the ‘**law of flotation**’ and ‘**the principle of Archimedes**’.
- **Hydrometer** – From this, the specific density of the liquids is extracted and their purity is tested.
- **Lactometer** – It is an Instrument used for finding the purity of a **milk sample**.

- **Odometer** – It is an instrument for measuring the distance by a **wheeled vehicle**. It doesn't depend on the Archimedes principle.
-

55. Answer: a

Explanation:

The correct answer is Directive Principles of State Policy.

- **Part IV (Article 36–51)** of the Indian Constitution is related to **Directive Principles** of our State Policy.
 - **It is not enforceable by any court** but these are fundamental in the governance of the country.
 - **It is the duty** of the government to **apply these principles in law-making**.
 - These principles have been **taken from the Constitution of Ireland**.
-

56. Answer: d

Explanation:

Given,

$$7^2 = 49$$

$$67^2 = 4489$$

Concept:

We can see the pattern

$\Rightarrow 7^2 = 49$: 7 Has 1 digit, then frequency of 4 from the starting is 1 and unit digit is 9.

$\Rightarrow 67^2 = 4489$: 67 Has 2 digit, then the frequency of 4 from the starting is 2 and 6 comes in 1 time, then 8 comes in 1 time and the unit digit is 9.

Calculation:

$\Rightarrow 667^2 =$ Has 3 digit, then the frequency of 4 from the starting is 3 and 6 comes 2 times, then 8 will come 2 times and the unit digit is 9.

$$\therefore 667^2 = 444889$$

57. Answer: d

Explanation:

The pattern followed is,

In row one, there is a star symbol given in each column and the number of circles keeps on decreasing form four to two.

And,

In row two, there is a square symbol given in each column and the number of circles keeps on decreasing form four to two.

Similarly,

In row three, there is an arc symbol given in each column and the number of circles keeps on decreasing form four to two.

The figure which will fit the blank is,



Hence, option 4 is the correct answer.

58. Answer: b

Explanation:

According to the given information,

Conclusion 1: This follows, because Rannu asked Sharmu about the parking sign, which tells us that he knows the meaning of no parking sign.

Conclusion 2: This also follows, because Rannu asked Sharmu not to park the vehicle where there is no parking sign, which tells us that Sharmu does not follow the road rules.

Hence, "both conclusions 1 and 2" follow.

59. Answer: d

Explanation:

The correct answer is option 4 i.e. Sardar Singh.

- **Sardar Singh** was awarded the **Rajiv Gandhi Khel Ratna award** for Hockey in 2017.
- The **Rajiv Gandhi Khel Ratna** award in Sports is **the highest sporting honor of India**.
- It is awarded by the **Ministry of Youth Affairs and Sports**.
- The **first recipient** of the award was **Viswanathan Anand**, who was the country's **first chess Grandmaster**.
- **Deepa Malik and Bajrang Punia** are awarded the **Rajiv Gandhi Khel Ratna award** for Athletics and Wrestling respectively in 2019.

60. Answer: d

Explanation:

The correct answer is option 4 i.e. Shah Rukh Khan.

- Shah Rukh Khan became the most-followed Indian celebrity on twitter site with 39 million followers.
- Shah Rukh Khan overtook emperor Amitabh Bachchan in reference to followers on Twitter.
- Priyanka Chopra was the first Bollywood celebrity to visit the Twitter headquarters in New York.
- Amitabh Bachchan is one of the most active Bollywood personalities on Twitter.

★ Mistake Points

- Answer is according to year 2018 , currently Mr Amitabh Bachchan has maximum foolowes on Twitter as an Indian Actor.

61. Answer: b

Explanation:

Given,

The value of two angles of a quadrilateral is 65° each.

The other two angles of the quadrilateral is the same.

Concept:

The sum of all the interior (four) angles of the quadrilateral is 360° .

Calculation:

Let the other two angles be x each.

According to the question

$$65^\circ + 65^\circ + x + x = 360^\circ$$

$$\Rightarrow 130^\circ + 2x = 360^\circ$$

$$\Rightarrow 2x = 360^\circ - 130^\circ$$

$$\Rightarrow 2x = 230^\circ$$

$$\Rightarrow x = 230^\circ/2$$

$$\Rightarrow x = 115^\circ$$

$\therefore$ Other Angles are of 115° each.

62. Answer: c

Explanation:

Given:

The sum of ages of 6 Persons A, B, C, D, E, and F in a company born at the intervals of 5 years each is 105 years.

Calculation:

Let the age of A be x ,

$$\Rightarrow \text{Age of B} = (x + 5)$$

$$\Rightarrow \text{Age of C} = x + 5 + 5 = (x + 10)$$

$$\Rightarrow \text{Age of D} = x + 10 + 5 = (x + 15)$$

$$\Rightarrow \text{Age of E} = x + 15 + 5 = (x + 20)$$

$$\Rightarrow \text{Age of F} = x + 20 + 5 = (x + 25)$$

According to the question

$$x + x + 5 + x + 10 + x + 15 + x + 20 + x + 25 = 105$$

$$\Rightarrow 6x + 75 = 105$$

$$\Rightarrow 6x = 105 - 75$$

$$\Rightarrow 6x = 30$$

$$\Rightarrow x = 30/6$$

$$\Rightarrow x = 5$$

$\therefore$ Age of oldest person, $F = x + 25 = 5 + 25 = 30$ years.

63. Answer: a

Explanation:

Given:

Day	11 April 2019	12 April 2020
Time	12:37 pm	12:29 pm

Concept:

Firstly we have to calculate the number of days and then the time followed by it.

For Calculate Number of Days, we have to find the exact days i.e., from 11 April 2019 to 12 April 2020 (as Time period for 12th April 2020 is less than 24 hours)

Number of Days in normal year = 365 days

Number of days in leap year = 366 days (and the extra day falls on February)

Calculation:

Number of Days = 11 April 2019 to 11 April 2020 = 366 days (As 2020 is a leap year)

Time = 11th April 2020 (12:37 pm) to 12th April 2020 (12:29 pm)

The difference in Time = 23 hours 52 minutes

∴ **Required Answer** = 366 days 23 hours 52 minutes

While calculating the number of Days, we use 365 days instead of 366 days (as they considered the year is not completed).

While calculating the time duration, Many of the candidates subtracted bigger value to smaller i.e, 37 minutes – 29 minutes (which is incorrect). We have to find the time difference from 37 minutes to 60 minutes first (i.e, 23 minutes) and then added these 23 minutes in 29 minutes of the next hour. (22 + 29 = 52 minutes).

64. Answer: b

Explanation:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The pattern followed is,

The place value of A is 1

The place value of D is 4

The place value of E is 5

The place value of F is 6

In the given pattern, the place values of A, D and F are correct.

Whereas,

The place value of E is given as 6, instead of 5.

Hence, option 2 is the odd one.

65. Answer: b

Explanation:

The mirror image of the given figure if the mirror is placed at line MN is,



Hence, option 2 is the correct answer.

66. Answer: a

Explanation:

The pattern followed is,



Hence, "35" is the correct answer.

67. Answer: a

Explanation:

The correct answer is option 1 i.e. Rheostat.

- The rheostat is an electrical device consist of magnum wire with the cylinder and three-terminal.
- It is used for the three purpose –
 - The Resistance varies
 - Current controlling device
 - Voltage divider
- The ammeter is an instrument used for measuring electric current in amperes.
- The resistor is an electrical component that is used to reduces the electric current.

68. Answer: a

Explanation:

The correct answer is option 1, i.e. 17.

Given,

The formula for the height of the rocket above the ground at any time during the rocket's flight: $h = 119t - 7t^2$

where, t = time in seconds

h = height in meters

Now, it is given that value of h , is 0 when the rocket hit the ground so,

$$0 = 119t - 7t^2$$

$$0 = 7t(t - 17)$$

The values of t are 0 and 17.

So, the rocket hit the ground after **17 seconds** of its launch.

69. Answer: d

Explanation:

The correct answer is option 4 i.e. Dissolving sulphuric acid in water.

- Sulfuric acid (H_2SO_4) is a strong mineral acid and soluble in water at all concentrations.
- The Sulphuric acid reaction with water is highly exothermic.
- If water is mixed to concentrated sulphuric acid, it acts to boil and spits.
- Sulphuric acid was discovered by alchemist Jabir ibn Hayyan in 8th century.
- Sulphuric acid has a very high affinity for the water.

70. Answer: a

Explanation:

Given:

$P = \text{£}1475$, $r = 4\%$ and $t = 5$ years

Formula:

$SI = \frac{Prt}{100}$...[P = principal, r = rate of interest, t = time period]

Calculation:

$SI = \frac{(1475 \times 4 \times 5)}{100}$

$\therefore SI = \text{£} 295$

71. Answer: d

Explanation:

The correct answer is option 4 i.e. Sumitra Mahajan.

- The Speaker of the Lok Sabha is the presiding officer of the lower house (Loksabha) of the Parliament of India.
- Sumitra Mahajan was the Speaker of 16th Loksabha from 2014 to 2019.
- Ganesh Vasudev Mavalankar was the first Speaker of 1st Loksabha (15 May 1952).

★ Important Points

- Om Birla is the current Speaker of 17th Lok Sabha.

72. Answer: b

Explanation:

The correct answer is option 2 i.e. Ibrahim Lodi

- Daulat Khan Lodi was the **governor of Lahore** in the reign of Ibrahim Lodi.
- Ibrahim Lodi was the **last king of the Lodi dynasty**.
- Ibrahim was defeated by Babur in 1526 at the **Battle of Panipat**.
- Daulat Khan sent his son, **Ghazi Khan Lodi**, to Delhi to know more about the **state's situation** in the government.
- Then, **Ghazi Khan** told his father **about Ibrahim Lodi's planning** that Ibrahim was planning to remove his governorship.
- In response, Daulat Khan showed his loyalty by sending messengers to **Babur in Kabul**.
- In exchange for assistance against **Ibrahim Lodi**, Babur agreed.

73. Answer: c

Explanation:

Given,

Reema bought the car = Rs. 75,000

Reema spent on the car = Rs. 10,000

Reema sold the car to Chiru at 15% profit.

Chiru sold the car to Ritu at 10% profit.

Formula:

If any item is sold at x% profit, then,

Selling price of the value = $(100 + x)/100 \times \text{Cost price}$

Calculation:

Cost price of the car for Reema = Rs. 75,000 + Rs. 10,000 = Rs. 85,000

⇒ Selling price of the car for Reema = Rs. 85,000 $\times 115/100$ = Rs. 97,750

Cost price of the car for Chiru = Rs. 97,750

⇒ Selling price of the car for Chiru = Rs. 97,750 $\times 110/100$ = Rs. 1,07,525

∴ Ritu pay for the car = 1,07,525.

74. Answer: c

Explanation:

The correct answer is option **3** i.e. Sankalp Parva.

- The Central Government had decided to celebrate August 15, 2017, Independence Day as "Sankalp Parv".

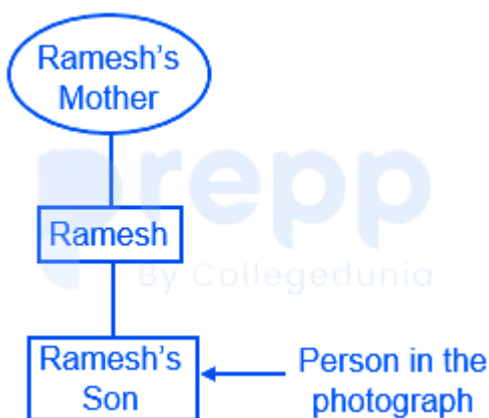
- The government appealed to the people to **dedicate themselves to social causes and share their ideas to make a New India.**
- **August 15, 2017,** was **celebrated** as the 'Sankalp Parva'.
- In **August 2022,** India will complete **75 years** as **an independent nation.**

75. Answer: c

Explanation:

According to the given information,

Symbol in Diagram	Meaning
○	Female
□	Male
==	Married couple
—	Siblings
	Difference of a generation



Hence, Ramesh is the father of that person.

76. Answer: d

Explanation:

Given,

The first pipe fills up the tank in 30 min

The second pipe fills up the tank in 45 min

If all three pipe open, then tank fill in 27 min

Formula:

Total work = Efficiency $\times$ Time

Calculation:

Suppose, Total work = 270 units (LCM of 30, 45, 27)

$\Rightarrow$ Efficiency of first pipe = 9 units/min

$\Rightarrow$ Efficiency of second pipe = 6 units/min

$\Rightarrow$ Efficiency of all three pipes = 10 units/min

Let efficiency of the third pipe be $(-x)$ units/min

According to the question

$$9 + 6 - x = 10$$

$$\Rightarrow 15 - x = 10$$

$$\Rightarrow x = 15 - 10$$

$$\Rightarrow x = 5 \text{ units/min}$$

$\therefore$ Pipe third alone can empty the full tank in $= 270/5 = 54$ min.

77. Answer: a

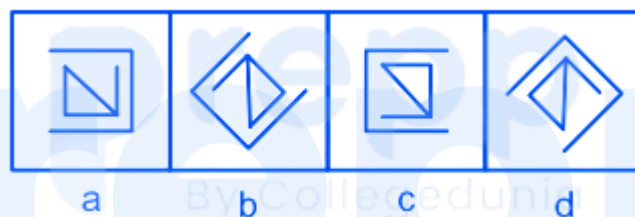
Explanation:

According to the given figures,

Figure which is outside rotates 135° clockwise direction and figure which is inside rotates

135° anti clockwise direction

The figure which will come next in the pattern is,



Hence, option 1 is the correct answer.

78. Answer: c

Explanation:

Given,

Speed of the train = 40 km/hr

The second train leaves the same station in the same direction after 2 hrs.

The second train catches up the first train in 4 hrs

Formula:

If speed of two train be x km/hr and y km/hr respectively, then

Relative speed of both the trains if same direction = $(x - y)$ km/hr

Where $x > y$

Relative speed of both trains in the opposite direction = $(x + y)$ km/hr

Speed = Distance/Time

Distance covered with the speed of p km/hr in q hrs = pq km

Calculation:

Distance covered by the first train in 2 hrs = $40 \times 2 = 80$ km

Let the speed of the second train be x km/hr

According to the question

Speed = Distance/Time

$$\Rightarrow (x - 40) = 80/4$$

$$\Rightarrow x - 40 = 20$$

$$\Rightarrow x = 20 + 40$$

$$\therefore x = 60 \text{ km/hr.}$$

79. Answer: c

Explanation:

The correct answer is option **4** i.e. Work and energy.

- The standard unit of energy and work is the joule (J).
- The SI unit of **pressure** is the "Pascal".
- The SI unit of **force** is the "Newton".
- The SI unit of **momentum** is "Kilogram meters per second".

80. Answer: a

Explanation:

The correct answer is option 1 i.e. Kaasav

- The National Film Awards is the most famous film award ceremony in India.
- It was established by the Ministry of Information and Broadcasting in India in 1954.
- "Kaasav" is an Indian (Marathi-language) film released on 6 October 2017.
- It was directed by filmmaker duo Sumitra Bhave–Sunil Sukthankar.

Year	Film (Winner)	Language
2016	Kaasav	Marathi
2017	Village Rockstars	Assamese
2018	Hellaro	Gujarati

81. Answer: d

Explanation:

The above figure is embedded in,



Hence, option 4 is the correct answer.

82. Answer: d

Explanation:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The pattern followed is,

$$\begin{array}{c}
 \text{N} \quad 14 \\
 | \\
 +2 \quad | \quad +2 \\
 | \\
 \text{P} \quad 16 \\
 | \\
 +2 \quad | \quad +2 \\
 | \\
 \text{R} \quad 18 \\
 | \\
 +2 \quad | \quad +2 \\
 | \\
 \text{T} \quad 20 \\
 | \\
 +2 \quad | \quad +2 \\
 | \\
 \text{V} \quad 22 \\
 | \\
 +2 \quad | \quad +2 \\
 | \\
 \text{X} \quad 24
 \end{array}$$

Hence, "V – 22, X – 24" is the correct answer.

83. Answer: c

Explanation:

Given,

Sham's marks are 25% more than that of Divya's.

Formula:

If any value increases by $x\%$, then,

Increased value = $(100 + x)/100 \times \text{Actual value}$

Calculation:

Let Divya's marks be $100x$,

$\Rightarrow$ Sham's marks = $100x \times 125/100 = 125x$

Divya's marks is less than that of Sham's by = $125x - 100x = 25x$

$\therefore$ Divya's marks is less than that of Sham's (in %) = $(25x/125x) \times 100 = 20\%$

84. Answer: c**Explanation:**

Concept:

Divisibility law of 9 $\Rightarrow$ A number is divisible by 9 if the sum of its digit is divisible by 9.

Calculation:

Option 1: 58556

Sum of the digits = $5 + 8 + 5 + 5 + 6 = 29$ (not divisible by 9)

Option 2: 56112

Sum of the digits = $5 + 6 + 1 + 1 + 2 = 15$ (not divisible by 9)

Option 3: 49653

Sum of the digits = $4 + 9 + 6 + 5 + 3 = 27$ (divisible by 9)

Option 4: 89445

Sum of the digits = $8 + 9 + 4 + 4 + 5 = 30$ (not divisible by 9)

$\therefore$ Option 3 is correct.

85. Answer: a

Explanation:

According to the given information,

Argument 1: This is not strong, because it is not given in the statement that perfume is only used by rich people.

Argument 2: This is not strong, because it is not given in the statement that perfume is used by poor people also.

Hence, "neither argument 1 nor argument 2" is strong.

86. Answer: b

Explanation:

The pattern followed is,

The figures A, B and C are geometrical figures with different symbols placed inside them.

Whereas,

In figure D, one figure is placed on the outer layer of the other.

Hence, figure D is the odd one.

87. Answer: c

Explanation:

According to the given information,

Assumption 1: This is implicit, as when a children cry means they wanted to say something which they are unable to say.

Assumption 2: This is also implicit, because parents leave them to play by themselves and when they cry parent need to see them.

Hence, "both 1 and 2" are implicit.

88. Answer: b

Explanation:

Ammeter is a measuring instrument used to measure current in a circuit.

Similarly,

Ohmmeter is an electrical instrument that measures electrical resistance (the opposition offered by a substance to the flow of electric current).

'Ohmmeter' relates to the third term in the same way that the second term relates to the first term.

Measurements	Instrument to measure
Pressure	Pressure gauge
Resistance	Ohmmeter
Speed	Speedometer
Voltage	Voltmeter

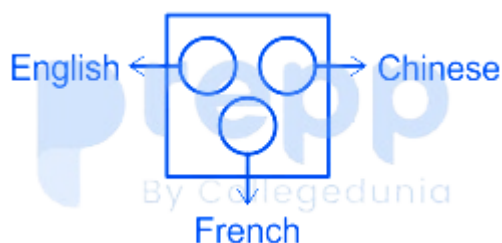
Hence, "ohmmeter" is the correct answer.

89. Answer: d

Explanation:

English, Chinese and French are different languages.

The correct Venn diagram is,



Hence, option 4 is the correct answer.

90. Answer: d

Explanation:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The pattern followed is,



Hence, "QH" is the correct answer.

91. Answer: c

Explanation:

The correct answer is option 3, i.e. Budding.

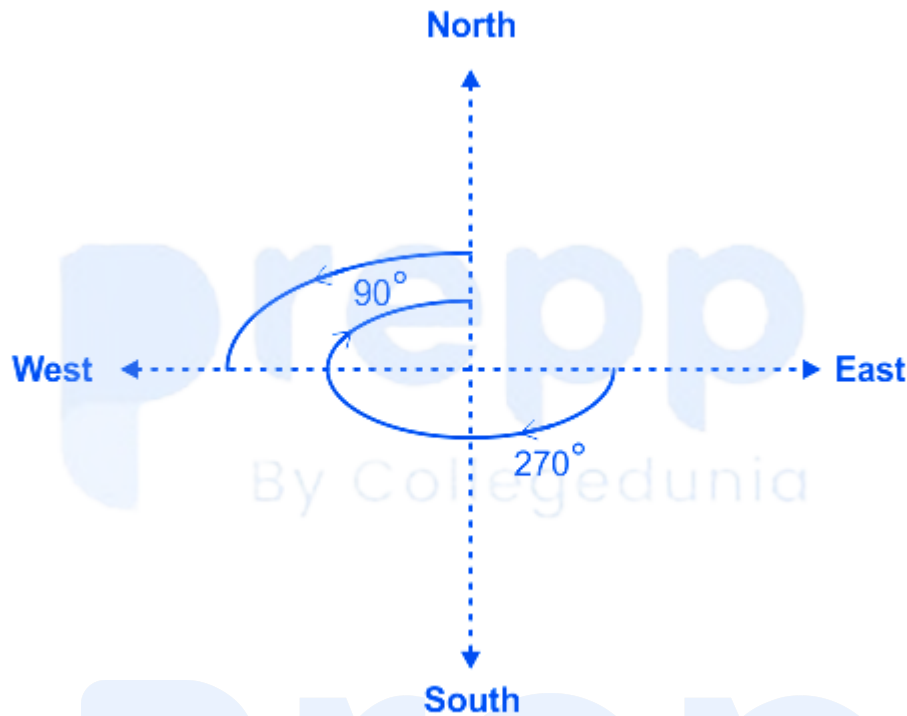
- **Budding** is a type of **asexual reproduction** and related to **both multicellular and unicellular organisms**.
- **Budding** – In this process, a **new organism develops from bud** due to cell division in one particular area.
- **These buds develop into tiny individuals** and, when fully mature, detach from the parent body and become new individuals.
- Budding is found in **Bacteria, yeast, corals, flatworms, and jellyfish**.
- **Fission** in bacteria is the process where a cell splits into two daughter cells.
- **Regeneration** is the natural process of replacing or restoring damaged or missing cells, tissues, organs, and even entire body parts to full function in plants and animals.
- **Multiple fission** is the process of asexual reproduction in which instead of 2 daughter cells, many daughter cells are produced from the parent cell. In this, the nucleus undergoes repeated division to produce a large number of nuclei.

92. Answer: c

Explanation:

Drawing the diagram according to the given information,

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He is facing west now.

Hence, "west" is the correct answer.

93. Answer: b

Explanation:

The correct answer is regeneration.

★ Key Points

- Regeneration - In this process, an animal gets the ability to recover its lost part.
- Regeneration occurs in organisms like hydra, flatworms, tapeworms. They have highly adaptive regenerative capabilities.
- This asexual reproduction is found in hydra, starfish, and planaria.
- **Fragmentation** - In this process, the breaking up parent animal into small parts, **each can grow a new complete individual**.

★ Mistake Points

- Since the question asks about all three, the answer would be regeneration.
- The source for the same can be found here.
- The terms **regeneration and fragmentation** are sometimes used alternatively, but are actually **different processes**.
- Also, Hydra has 2 methods of reproduction, Regeneration and Budding

94. Answer: c

Explanation:

Given:

25, 35, and p are in continued proportion.

Formula:

If a, b, and c are in proportion

$$\Rightarrow a/b = b/c \Rightarrow b^2 = ac$$

Calculation:

According to the question

$$25 : 35 :: 35 : p$$

$$\Rightarrow 25/35 = 35/p$$

$$\Rightarrow p = (35 \times 35)/25$$

$$\Rightarrow p = 49$$

$\therefore$ The value of p is 49.

95. Answer: a

Explanation:

Given,

The LCM of two numbers is 432.

Concept:

If LCM and HCF of the two numbers be x and y respectively, then x is completely divisible by y .

Calculation:

LCM of the two number = 432

Option 1: $432 \div 12 = 36$ (completely divisible, possible)

Option 2: $432 \div 34 = 12.7$ (not completely divisible, not possible)

Option 3: $432 \div 26 = 16.6$ (not completely divisible, not possible)

Option 4: $432 \div 32 = 13.5$ (not completely divisible, not possible)

$\therefore$ Option 1 is correct.

96. Answer: d

Explanation:

Given,

Mr. A starts the business with Rs. 28,000 and invest his money for 12 months.

Mr. B invest his money for = 7 months

Mr. C invest his money for = 5 months.

Profit ratio of A, B and C = 4 : 2 : 3

Formula:

Profit = Money $\times$ Time

Calculation:

Let money invested by B and C be P and Q respectively, then

According to the question

$$4/2 = (28,000 \times 12) / (P \times 7) \quad \dots[\text{taking investments of A and B}]$$

$$\Rightarrow 2 = (4,000 \times 12)/P$$

$$\Rightarrow 48,000 = 2P$$

$$\Rightarrow P = 48,000/2$$

$$\Rightarrow P = 24,000$$

$\therefore$ Money invested by Mr. B is Rs. 24,000.

Similarly,

$$4/3 = (28,000 \times 12) / (Q \times 5) \quad \dots[\text{taking investments of A and C}]$$

$$\Rightarrow Q = [(28,000 \times 12)/5] \times 3/4$$

$$\Rightarrow Q = 50,400$$

$\therefore$ Money invested by Mr. C is Rs. 50,400.

97. Answer: c

Explanation:

The correct answer is option 3 i.e. Very Weak.

- Bonds formed by elements having larger atoms are **weaker**.
- Due to the **small carbon atoms**, there is a **strong bond** between them.
- This enables the nucleus to **strongly hold shared pairs of electrons**.

- The triple bonds are stronger than double bonds between the same two atoms.
- The double bonds are stronger than single bonds between the same two atoms.

98. Answer: b

Explanation:

According to the given information,

Argument 1: This is not strong, because nothing about earnings is mentioned in the statement.

Argument 2: This not strong, because it is only mentioned about Indians working abroad.

Hence, "neither 1 nor 2" is strong.

99. Answer: c

Explanation:

Figure is moving by one place in anti-clockwise direction.

The figure which will come next in the series is,



Hence, option 3 is the correct answer.

100. Answer: d

Explanation:

The correct answer is option 4 i.e. Both A and B are true.

- **The speed of sound** – It is the distance covered per unit time by the sound wave.
- The speed of sound varies in different mediums.

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State	Substance	Speed (m/s)
Solid	Iron	5950
Liquid	Distilled Water	1498
Gas	Oxygen	316

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